

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1, 2, 10 and 11 in accordance with the following:

1. (CURRENTLY AMENDED) A method for assigning phonemes to a lexicon of words using a dynamic time warping algorithm to phonetically transcribe the words by assigning phoneme sequences to grapheme sequences of the words, where the assignment of graphemes to phonemes within a word is corrected with aid of position-dependent relative frequencies including a frequency with which at least one grapheme at a specific position within a grapheme group is assigned to at least one phoneme.

2. (CURRENTLY AMENDED) A method for assigning phonemes to graphemes producing them in a lexicon having words (grapheme sequences) and corresponding associated phonetic transcription (phoneme sequences), comprising:

determining relative frequency with which the phonemes and the graphemes are assigned to one another for each assignment of phonemes and graphemes,

creating for each word of the lexicon a two-dimensional matrix (incidence matrix), one index of which is given by the grapheme of the word, and the second index of which is given by the phoneme of the word,

selecting the relative frequencies belonging to the respective phoneme-grapheme pair determined as entries of the matrix,

logically combining each matrix entry with aid of a mathematical operation with the extreme value of the following three preceding matrix entries:

the entry for the same phoneme and the preceding grapheme in the word,

the entry for the preceding phoneme and the same grapheme in the word, and

the entry for the preceding phoneme and the preceding grapheme in the word,

using the first grapheme and the first phoneme of the word as the starting point in the mathematical operation, and using the modified entries of the matrix in determining the extreme

values, the modified entries being respectively yielded from the mathematical operation,
determining which of the three preceding matrix entries was extreme to thereby
determine a direction for this matrix entry,

defining the direction determined for the matrix entry, starting from the matrix entry for the
last phoneme and the last grapheme, and proceeding along a path through the matrix up to the
matrix entry for the first phoneme and the first grapheme, and

using the matrix elements along the path to define the assignment of graphemes to
phonemes of the word, where the assignment of graphemes to phonemes within a word is
corrected with aid of position-dependent relative frequencies including a frequency with which at
least one grapheme at a specific position within a grapheme group is assigned to at least one
phoneme.

3. (PREVIOUSLY PRESENTED) The method as claimed in claim 2, wherein the relative
frequencies are determined by selecting words from the lexicon in the case of which the number
of the graphemes and the number of the phonemes coincide, for the selected words, the
graphemes and phonemes are assigned to one another in the sequence of the specification of
their graphemes and phonemes in the lexicon.

4. (ORIGINAL) The method as claimed in claim 1, wherein after execution of the
assignment of graphemes to phonemes for each word of the lexicon, these assignments are
used to determine the position-dependent relative frequency with which at least one of the
following combination occur:

a phoneme produced by two or more graphemes,
two or more phonemes produced by a grapheme,
two or more graphemes assigned to a phoneme, and
a grapheme assigned to two or more phonemes.

5. (CANCELLED)

6. (PREVIOUSLY PRESENTED) The method as claimed in claim 2, wherein after
execution of the assignment of graphemes to phonemes for each word of the lexicon, these
assignments are used to determine the position-dependent relative frequency with which at least
one of the following combinations occur:

a phoneme produced by two or more graphemes,
two or more phonemes produced by a grapheme,
two or more graphemes assigned to a phoneme, and
a grapheme assigned to two or more phonemes.

7. (CANCELLED)

8. (PREVIOUSLY PRESENTED) The method as claimed in claim 1 or 2, wherein after assigning graphemes to phonemes for selected words in the sequence of the specification, for each word of the lexicon, the corrected assignments are used to recalculate the position-dependent relative frequency with which a phoneme is produced by two or more graphemes, or two or more phonemes are produced by a grapheme; and the recalculated position dependent relative frequencies are used to again assign graphemes to phonemes for selected words in the sequence of the specification.

9. (PREVIOUSLY PRESENTED) The method as claimed in claim 8, wherein each matrix is combined with a multiplication mathematical operation, and in order to determine the relative frequencies, only those assignments are taken into account in which the matrix entry for the last phoneme and the last grapheme exceeds a prescribed threshold value after multiplication of matrices.

10. (ORIGINAL) The method as claimed in claim 2, wherein the matrix entry for the first phoneme and the first grapheme of each word is set to 1; the matrix entry for the last phoneme and the last grapheme of each word is set to 1; the matrix entry for the first phoneme and the last grapheme of each word is set to 0; and the matrix entry of the last phoneme and the first grapheme of each word is set to 0.

11. (ORIGINAL) The method as claimed in claim 2, wherein if in the determination of the maximum value of the three preceding matrix entries the matrix entry for the preceding phoneme and the preceding grapheme in the word and one of the other two entries are of equal magnitude, the matrix entry for the preceding phoneme and the preceding grapheme in the word is regarded as a maximum.

12. (CURRENTLY AMENDED) A computer system of assigning phonemes to a lexicon of words, comprising:

- a storage device for storing a computer program on a storage medium; and
- a processing unit for loading the computer program from the storage device and for executing the computer program so as to use a dynamic time warping algorithm to phonetically transcribe the words by assigning phoneme sequences to grapheme sequences of the words, wherein the assignment of graphemes to phonemes within a word is corrected with aid of position-dependent relative frequencies including a frequency with which at least one grapheme at a specific position within a grapheme group is assigned to at least one phoneme.

13. (CURRENTLY AMENDED) A computer readable medium storing a program for controlling a computer to perform a method of assigning phonemes to the graphemes producing them in a lexicon having words (grapheme sequences) and their associated phonetic transcription (phoneme sequences), comprising:

- determining relative frequency with which phonemes and graphemes are assigned to one another for each assignment of phonemes and graphemes,

- creating for each word of the lexicon a two-dimensional matrix (incidence matrix), one index of which is given by the grapheme of the word, and the second index of which is given by the phoneme of the word,

- selecting the relative frequencies belonging to ~~the a~~ respective phoneme-grapheme pair ~~and determined in the first step as~~ entries of the matrix,

- logically combining each matrix entry with the aid of a mathematical operation with the extreme value of the following three preceding matrix entries:

- the entry for the same phoneme and the preceding grapheme in the word,

- the entry for the preceding phoneme and the same grapheme in the word, and

- the entry for the preceding phoneme and the preceding grapheme in the word,

- using the first grapheme and the first phoneme of the word as the starting point in the mathematical operation, and using the modified entries of the matrix in determining the extreme values, the modified entries being respectively yielded from the mathematical operation,

- determining which of the three preceding matrix entries was extreme to thereby determine a ~~step~~-direction for this matrix entry,

- defining the ~~step~~-direction determined for the matrix entry, starting from the matrix entry for the last phoneme and the last grapheme, and proceeding along a path through the matrix up

to the matrix entry for the first phoneme and the first grapheme, and

using the matrix elements along the path to define the assignment of graphemes to phonemes of the word, where the assignment of graphemes to phonemes within a word is corrected with the aid of position-dependent relative frequencies including a frequency with which at least one grapheme at a specific position within a grapheme group is assigned to at least one phoneme.